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(54) Medicated chewing gum

(57) A chewing gum for medical diagnosis or treatment, comprises a soluble outer coat over a chewable inner core, in which both the coat and the core contain pharmaceutically-active ingredients. The ingredient in the coat may be the same or different from that in the core, and so the product can provide sequential two-stage treatment, suitably of the mouth, pharynx or gut. Active ingredients may be organo-zinc compounds, sodium chromoglycate, galenicals, vegetable substances such as leaves or herbs or tobacco, and radioactive materials.

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SPECIFICATION

Medicated chewing gum

The invention relates to medicated chewing gum, different varieties of which may be used respectively in diagnosis and in treatment. A particularly advantageous feature of the invention is that the product facilitates the topical application of active ingredients to the mucous membranes of the mouth and oro-pharynx, and by slow release into the gut when administration by swallowing or injection is inappropriate.

According to the invention therefore I provide a chewing gum containing ingredients releaseable from the gum by chewing and suitable for the diagnosis or treatment of conditions in the region of the mouth, throat and upper respiratory tract.

In a particularly advantageous form of the invention I provide a chewing gum having an outer soluble coat and an inner chewable core. Each of the coat and core may contain a different active ingredient or mixture of ingredients. Preferably the respective ingredients or mixtures of ingredients are related to one another in the sense that in the diagnostic or treatment procedure the ingredient or ingredients of the coat are required to be administered before the ingredient or ingredients of the core.

The invention will now be further described by way of a number of non-limiting examples. Certain organo-zinc preparations are effective against viral and other infections of the mouth, pharynx and gut, and in one embodiment of the invention, organo-zinc preparations are incorporated in a conventional chewing gum base from which it will be released into close contact with the mucous membranes of the mouth and oro-pharynx while the gum is being chewed.

In another embodiment, the organo-zinc of the first embodiment is replaced by sodium chromoglycate as medically active ingredients.

In the above embodiments the active ingredient is thoroughly mixed with the conventional gum base, but in a third embodiment the gum base is formed into a flat sheet and folded to enclose the active material between two layers of the gum base. The active ingredient in this embodiment may for example be a leaf or part of a leaf of a plant such as a herb or tobacco. The "wrapping up" technique can also be employed for other active ingredients such as galenicals. The conventional gum base is somewhat soft and the active ingredients would be embedded in the base upon the folding of the sheet of base about the active substance and the folded over portions of the base would merge together to form a seal about the active ingredient. The ingredients would, however, be released when the gum was chewed.

In a particular advantageous form of the invention a conventional soft gum containing one active ingredient is surrounded by an outer coating containing another active ingredient. The outer coating may be based on sugar or an alternative relatively highly soluble material which will release the active ingredient rapidly when the product is sucked and before the ingredient combined in the gum base is released. This structure offers the possibility of a two-stage treatment or diagnostic procedure.

For example the outer coat may incorporate the first part of a two-stage diagnostic system utilising dyes. In another arrangement the outer coat may incorporate a local anaesthetic or other material which would render the mouth relatively insensitive to the ingredient subsequently to be released from the gum, which other ingredient could then be one which would in other circumstances cause discomfort.

Again, the active ingredient in the outer coat may constitute a primer or tissue culture having the function of preparing the mouth for the later release, from the gum base, of a further medicament.

The organo-zinc and sodium chromoglycate referred to in connection with the first embodiments may, if desired, be usd as active ingredients in either the outer coat or the gum core of a coated gum.

The invention is capable of being used to apply a wide range of substances to the mouth and adjacent regions of the body, such substances including for example radio-active tracer material.

CLAIMS

1. A chewing gum comprising a soluble outer coat and a chewable inner core wherein each of the coat and the core comprises a pharmaceutically-active ingredient.

2. A chewing gum according to claim 1 wherein the ingredient in the coat differs from the ingredient in the core.

3. A chewing gum according to claim 2 wherein the respective ingredients are related to one another in the sense that the ingredient in the coat is required to be administered before the ingredient in the core.

4. A chewing gum according to any one of the preceding claims wherein the or an ingredient is an organo-zinc compound, sodium chromoglycate, a galenical or a vegetable substance such as the leaf of a plant.

5. A chewing gum according to any one of the preceding claims for use in medical treatment.

6. A chewing gum according to claim 5 wherein the treatment is in respect of an infection of the mouth, pharynx or gut.

7. A chewing gum according to any one of the claims 1 to 3 for use in medical diagnosis.

8. A chewing gum according to claim 7 wherein the or an ingredient is a radio-active tracer material.

9. A chewing gum comprising a soluble outer coat and a chewable inner core substantially as described.

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